



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,467	04/15/2005	Osamu Kawai	270649US0PCT	1368
22850	7590	02/16/2006		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER BERNSHTEYN, MICHAEL	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/531,467	KAWAI ET AL.	
	Examiner	Art Unit	
	Michael Bernshteyn	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/15/05,06/22/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakamoto (U.S. Patent 5,726,268).

Sakamoto discloses **methyl methacrylate polymer** comprising methyl methacrylate units as a primary component not less than 50% by weight, preferably **not less than 70% by weight** (abstract, col. 2, lines 14-16). Methyl methacrylate units may partially be replaced by a **monofunctional unsaturated monomer** unit, which is copolymerizable with methyl methacrylate (col. 2, lines 19-21). The content of the copolymerizable, monofunctional unsaturated monomer unit in the polymer is preferably not less than 1% by weight, more preferably **not less than 3% by weight** (col. 2, lines 26-30). Examples of copolymerizable, monofunctional unsaturated monomer which forms the monofunctional unsaturated monomer unit include: methacrylates, such as ethyl methacrylate, propyl methacrylate, butyl methacrylate, and benzyl methacrylate; acrylates, such as **methyl acrylate, ethyl acrylate, propyl acrylate, butyl acrylate, and 2-ethylhexyl acrylate**, etc. (col. 2, lines (45-67)).

The methyl methacrylate polymer of the present invention can be obtained by polymerizing the monofunctional monomer with a predetermined amount of a monomer, which forms polyfunctional structural unit, and further a chain transfer agent and/or a polymerization initiator according to the requirements (col. 4, lines 10-15). The monomer which forms polyfunctional structural unit is usually a **polyfunctional monomer**, which has at least two double bonds in its molecule and is copolymerized with methyl methacrylate. Content of the polyfunctional monomer is generally from 0.02 to 0.3%, preferably **from 0.05 to 0.2% by weight** in the polymer; it is within the claimed range. Examples of the polyfunctional monomer include: esters of ethylene glycol and of oligomers of ethylene glycol having two or more hydroxyl groups esterified by acrylic acid or methacrylic acid, such as **ethylene glycol di(meth)acrylate**, diethylene glycol di(meth)acrylate, triethylene glycol di(meth)acrylate, tetraethylene glycol di(meth)acrylate, etc. (col. 4, lines 20-43).

Sakamoto discloses that a variety of **other agents** generally used for acrylic resins, for example, mold parting agents, ultraviolet light absorbers, coloring agents, antioxidants, heat stabilizers, and plasticizers, may be added to the methyl methacrylate polymer, for example, **another acrylic resin** may be added to the methyl methacrylate polymer for better impact resistance and/or heat resistance (col. 6, lines 1-8). Different resins are described as diffusing agents in the specification (page 5, lines 16-23).

The amount of such agent is within the claimed range for the diffusing agent (see Example 1: 1 part by weight of poly(sodium methacrylate), which is diffusing agent, per

Art Unit: 1713

96 parts by weight of methyl methacrylate and 4 parts by weight of methyl acrylate, col. 7 line 62 through col. 8, line 9).

Therefore, the subject matter of the instant claim 1 and dependable claim 2 is expressly met by Sakamoto.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Bernshteyn whose telephone number is 571-272-2411. The examiner can normally be reached on M-F 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Bernshteyn
Patent Examiner
Art Unit 1713

MB
02/10/2006


DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700